



UNIGROUT

NON-METALLIC NON-SHRINK GROUT
SUITABLE FOR ALL GROUTING REQUIREMENTS

CONCRETE 3: GROUTING & ANCHORING

PRODUCT DESCRIPTION

UniGrout is a non-metallic non-shrink grouting material, suitable for all grouting requirements. It is both non-corrosive and non-staining. The precise blending of proprietary ingredients in UniGrout produces a controlled, positive expansion from time of placement.

GENERAL USES

UniGrout is excellent for grouting precast or prestressed concrete; interior or exterior equipment; and machinery subject to moisture, high humidity and chemical spillage.

- Power plants
- Petrochemical plants
- Transmission towers
- Paper mills
- General purpose grouting: heavy equipment and base plates, structural columns
- Pump and equipment bases

FEATURES

UniGrout contains specially graded, fine, select silica aggregates; cement; shrinkage compensating ingredients; and plasticizing and water-reducing agents. Strength, dimensional stability, flowability, workability and setting characteristics are assured by careful blending in Universal's own plants under rigid quality control standards.

- High early strength
- Non-shrink
- Non-rusting
- Excellent freeze-thaw resistance
- Interior/exterior applications

STANDARDS

UniGrout conforms to requirements of Corps of Engineers CRD C621 and ASTM C1107

INSTRUCTIONS FOR USE

Surface Preparation

Surfaces must be free from form oil, grease or any loose materials. If the concrete surface is defective or has laitance, it must be cut back to a sound base.

Setting time fluid consistency

Initial set time approximately 4 hours 30 minutes

Final set time approximately 5 hours 30 minutes

TYPICAL PERFORMANCE DATA

WATER REQUIREMENTS PER 50 LB	5.0-7.0 PINTS 2.4-3.3 LITERS 5.2-7.3 LB	7.0-8.0 PINTS 3.3-3.8 LITERS 7.3-8.3 LB	8.0-9.0 PINTS 3.8-4.3 LITERS 8.3-9.4 LB	VOLUME CHANGE ASTM C827			
	2.4-3.3 KG	3.3-3.8 KG	3.8-4.3 KG				
COMPRESSIVE STRENGTH ATSM C109							
	PLASTIC		FLOWABLE	FLUID	% CHANGE		
	PSI	MPA	PSI	MPA		PSI	MPA
1 DAY	3500	23	3000	21	1500	11	0.02
3 DAYS	5500	38	4800	33	3200	22	0.03
7 DAYS	7000	48	6500	45	4500	31	0.03
28 DAYS	10600	73	8700	60	7300	50	0.03
BOND STRENGTH ATSM C882 MODIFIED							
	PLASTIC		FLOWABLE	FLUID			
	PSI	MPA	PSI	MPA	PSI	MPA	
28 DAYS	2100	14.4	2000	13.7	1900	13.1	

Base plate preparation

It is essential that area is clean and free from oil, grease, and scale. Air pressure relief hole should be provided to allow venting of any isolated high spots.

Leveling Shims

If these are to be removed after the grout has hardened, they should be treated with a thin layer of grease.

Pre-soaking

Several hours prior to grouting, the clean area should be flooded with fresh water. Immediately prior to grouting, any free-standing water should be removed with air to blow out bolt holes and pockets.

Approximate Yield: .43 cu ft. per 50 lb bag.

Mixing

The amount of water added to obtain the desirable consistency must be precise, and an accurate measuring method must be employed. Consistencies described conform to CRD C621-83. According to the desired grout consistency, the amount of water required for each 50 lb bag of UniGrout is:

- Plastic
 - 50 lb grout
 - 5.00 to 7.00 pints water
 - 5.20 to 7.30 lb
 - 2.40 to 3.30 liters



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Building Products Inc.-Chemical Division

- Flowable
 - 50 lb grout
 - 7.00 to 8.00 pints water
 - 7.30 to 8.30 lb
 - 3.30 to 3.80 liters
- Fluid
 - 50 lb grout
 - 8.00 to 9.00 pints water
 - 8.30 to 9.40 lb
 - 3.80 to 4.30 liters

In cold conditions warm water (95-110°F) may be used to accelerate the strength development.

Application

For best results, a mechanically powered grout mixer should be used. For small quantities of 1-2 bags, a slow speed electric drill with a suitable paddle is recommended.

It is essential that machine mixing capacity and labor availability is adequate to enable the grouting operation to be carried out continuously. This may require the use of holding tank with provision for gentle agitation to maintain fluidity. The selected water content should first be accurately measured into the mixer. Slowly add the total contents of UniGrout bag. Mix continuously for 5 minutes, making sure that a smooth, even consistency is obtained. Place the grout within 5 minutes of mixing to gain the full benefit of the expansion process. Where large volumes have to be placed UniGrout may be pumped. A heavy-duty diaphragm pump is recommended for this purpose.

For deep applications (over 2"), a clean 3/8" (1cm) pea gravel may be added to the grout:

2" to 5" application	25% by weight
over 5" application	50% by weight

Covering and Placing

A 50 lb unit of UniGrout will yield approximately .43 cubic foot.

When placing UniGrout or any other grout, a continuous grout flow is essential. Sufficient grout must be available prior to starting and the time taken to pour a batch must be regulated to the time taken to prepare the next.

Pouring and placing grout should be from one side only to eliminate voids in the cured grout by entrapment of air or surplus pre-soaking water. A grout head must be maintained at all times so that a continuous grout front is achieved.

Curing

Upon completion of the grouting operation, exposed areas, which are not to be cut back, should be thoroughly cured using normal concrete curing methods and practice. Universal Form Clamp Co. Chemical Division manufactures a variety of chemical curing compounds, which may be used with UniGrout. Please contact your Universal representative for additional information.

PACKAGING

- 50 lb bags

LIMITATIONS/WARNING

Do not re-temper. Do not vibrate. Do not use any additives including accelerators, water reducers, or air entraining agents.

Refer to material safety data sheet prior to use.

Avoid direct contact with skin and eyes. Product contains Portland cement. May cause irritation and possibly cement burns. Wash exposed skin area promptly with water. In case of eye contact, flood eyes repeatedly with water and call physician. Do not take internally. Harmful if ingested. Keep product out of reach of children.

TECHNICAL SERVICES

Universal Building Products Inc. - Chemical Division Technical Service Department provides complete product and technical support.

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